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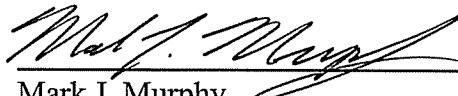
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in the following listed application(s) or patent(s) for which the issue fee has been paid.

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Respectfully Submitted,



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(12) **United States Patent**
Satake

(10) **Patent No.:** **US 7,348,953 B1**
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(54) **METHOD OF DRIVING LIQUID CRYSTAL
DISPLAY DEVICE**

(75) Inventor: **Rumo Satake, Kanagawa (JP)**

(73) Assignee: **Semiconductor Energy Laboratory
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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
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(58) **Field of Classification Search** 345/55-100;
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See application file for complete search history.

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(57) **ABSTRACT**

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A method of driving a liquid crystal display device is provided which can decrease the hysteresis of thresholdless liquid crystal and which can, depending on the liquid crystal, improve the response time. By providing a "0 V" reset period before or after a gradation display period, the hysteresis of the thresholdless liquid crystal is prevented. With regard to a liquid crystal which has a small spontaneous polarization and with which switching between halftones takes a lot of time, there is an effect of improving the response time by switching via "0 V".

41 Claims, 22 Drawing Sheets

